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ABSTRACT

Higher order need strength (HONS) has been shown to moderate the relationship between work role characteristics and some traditional dependent variables in organizations. It was hypothesized that employees with strong HONS might be more sensitive to variability in their work environments than people with weaker HONS. This would happen because these employees expect that their needs can be statisfied at work. Second, it was hypothesized that employees with strong HONS would be more likely than employees with weaker HONS to notice more variability especially in two aspects of work (intrinsically motivating job characteristics and performance-contingent rewards) that are most relative to these needs. Employees with strong HONS would be less sensitive, however, to supervisory style and coordination, the other two variables measured. The sample was 957 (response rate = 79%) employees of all levels and all units of a heavy manufacturing company located in the Midwest. The results supported the hypotheses that employees' HONS is related to the variances in their perceptions of their work environments and that the sensitivity to environmental variation is more pronounced for aspects of the work environment that may be instrumental in satisfying HONS (job characteristics) and that may serve as feedback on job performance (contingent rewards). (Author)

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The Relationship Between Higher Order Need Strength and Sensitivity to Environmental Variations

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Abstract

Higher order need strength (HONS) has been shown to moderate the relationship between work role characteristics and some traditional dependent variables in organizations. It was hypothesized that employees with strong HONS might be more sensitive to variability in their work environments than people with weaker HONS. This would happen because these employees expect that their needs can be satisfied at work. Second, it was hypothesized that employees with strong HONS would be more likely than employees with weaker HONS to notice more variability especially in two aspects of work (intrinsically motivating job characteristics and performance-contingent rewards) that are most related to these needs. Employees with strong HONS would be less sensitive, however, to supervisory style and coordination, the other two variables measured. The sample was 957 (response rate = 79%) employees of all levels and all units of a heavy manufacturing company located in the Midwest. The results supported the hypotheses that employees' HONS is related to the variances in their perceptions of their work environments and that the sensitivity to environmental variation is more pronounced for aspects of the work environment that may be instrumental in satisfying HONS (job characteristics) and that may serve as feedback on job performance (contingent rewards).

The Relationship Between Higher Order Need Strength and Sensitivity to Environmental Variations

Higher order need strength, a term derived from Maslow's concept of a need hierarchy, has become of interest to industrial/organizational psychology researchers as a potential moderator of the relationship between characteristics of employees' work environment and some traditional dependent variables in business and industry. Hackman and Lawler (1971), for example, found that employees with strong higher order needs had stronger correlations between some job characteristics thought to be typical of intrinsically motivating jobs (i.e., autonomy, variety, task identity, and feedback) and several criterion variables, including satisfaction, internal motivation, and performance (as rated by supervisors). Beehr, Walsh, and Taber (1976), found a significant (although weak) trend for higher order need strength to moderate the relationships between work role stress and strain (tension, fatigue, and dissatisfaction); employees with strong higher order needs had stronger relationships between stress and strain than did employees with weak higher order needs. Brief and Aldag (1976) however, were able to find no moderating effect for higher order need strength on the relationship between two work role stresses and employee responses. The present study attempted to find one of the processes that might be responsible for any of these moderating effects that higher order need strength may have.

The studies of the moderating effects of higher order need strength employ the Lewinian (e.g., 1951) assumption that the behaviors (and other outcomes) of the employee are a product of both the person and his or her

(perceived) environment. The present study assumes that aspects of this perception of the work environment of the employee may be affected by the employee's higher order need strength. Specifically, it is proposed here that people will attend most closely (be most sensitive) to aspects of their environments that are likely to satisfy their own needs. An employee with strong higher order needs, therefore, is most likely to attend to aspects of the work environment that are potential satisfiers of higher order needs. If employees are more sensitive to their environment, it was assumed that they would be more likely to make fine discriminations in their perceptions of it. Therefore, a group of people making those distinctions would have more variance in their perceptions than other people would. In western culture, it is common for people to expect to satisfy higher order needs in their occupations. Therefore, it was hypothesized that there would be a tendency for people with strong higher order needs to have more variance in their perceptions of all aspects of their work environments than would people with weak higher order needs. A second more specific hypothesis was that there would be especially strong differences in variances of these two need groups' perceptions of job characteristics that have the greatest potential for satisfying higher order needs.

Method

Sample

The sample represented all types of jobs and all levels of a large midwestern manufacturing company. A ten percent random sample of employees was selected to respond voluntarily to a company-sponsored survey concerning

work. The investigators and their staff met with the respondents in groups of ten to twenty employees during company time to administer the questionnaire. Individual employee's responses were anonymous. Nine hundred fifty-seven employees completed the questionnaire for a response rate of 79%.

Measures

Higher order need strength (mean = 5.65, S.D. = 1.09) was assessed with the seven-item index described in Beehr, et. al. (1976). The measure was derived from Maslow's (1954) concept of higher-order needs and from some of the characteristics of intrinsically motivating jobs as outlined by Turner and Lawrence (1965). A sample item is "How important is the following to you? The chances you have to accomplish something worthwhile." This and all other measured had a range of one to seven.

Employees with strong higher order needs were hypothesized to be sensitive especially to intrinsically motivating factors of job design and to reward systems that base rewards on performance. There were four measures of job factors (autonomy, variety, task identity, and task feedback) thought to be intrinsically motivating (Hackman & Lawler, 1971). The indices were formed from items thought a priori to measure these characteristics, and a varimax rotated factor analysis for four factors found that each item's highest loading was on its own factor. It was decided to combine these four job characteristics into one overall measure, however, because the hypotheses regarded these variables as acting as a single set (the intrinsically motivating aspects of jobs) and because in both the present data and a recent study by Dunham (1976), using a similar set of measures, the eigen value of

the factor analysis dropped below 1.0 after the first factor. This overall job characteristics index was the mean of the four job characteristics measures. Some researchers (e.g. Hackman and Oldham, 1975) have advocated more complicated models of combining job characteristics, but as noted by Dunham, most studies have found that simple, additive combinations seem to be equally good.

Autonomy (reliability = 6.1, mean = 4.81, S.D. = 1.23) was measured by the mean of three items:

On my job I make a lot of decisions on my own.

I have a lot of say in decisions which affect my work.

My supervisor leaves it up to me to decide how to go about doing my job. These items were answered on a seven-point agree-disagree scale (strongly agree, agree, slightly agree, neither agree nor disagree, slightly disagree, disagree, or strongly disagree).

Variety (reliability = .51, mean = 4.12, S.D. = 1.52) was measured on the agree-disagree scale by the mean of two items (after reversal of the first item):

My job requires me to repeat the same activities over and over.

I do a large number of different things on my job.

Task identity (reliability = .56, mean = 5.22, S.D. = 1.21) was measured on the agree-disagree scale by the mean of three items:

I can see the results of my own work.

My work makes a visible impact on a product or service.

On my job I produce a whole product or perform a complete service.

Task feedback (reliability = .51, mean = 5.65, S.D. = 1.10) was measured on the agree-disagree scale by the mean of two items (after reversal of the second item):

I can tell how well I am doing at my job without being told.

My job gives me very little idea about how well I am performing.

There were two single-item measures of reward system characteristics to which employees with strong higher order needs were expected to be especially sensitive. They were contingent pay (mean = 2.22, S.D. = 1.94) and contingent promotions (mean = 2.99, S.D. = 2.08).

Here are some things that could happen to people when they do their jobs especially well. How much does doing your job <u>especially well</u> increase the chances of each of the following things happening to you?

getting a bonus or pay increase

getting a promotion or a better job

Employees responded on a seven-point scale with anchors at points one (doing well doesn't make any difference), four (increases the chances a little), and seven (increases the chances a lot).

It was hypothesized that employees would be somewhat less sensitive to variation in two other types of characteristics in their work environment, coordination and supervisory behaviors. Coordination (mean = 5.23, S.D. = 1.27) was measured on the agree-disagree scale by the mean of two items:

Many other jobs must be coordinated with mine if they are to be done properly.

In order for me to do my job properly, my activities must be closely coordinated with others.

Two supervisory behaviors were measured: supervisor support and supervisor structuring. As with the job characteristics measures, items were placed into indices on conceptual grounds, but a varimax rotated factor analysis for two factors found that each item had its highest loading on its own preconceived factor. The lowest such loading was .61. Supervisor support (mean = 5.19, S.D. = 1.49) was measured on the agree-disagree scale by the mean of three items:

My supervisor is friendly and easy to approach.

My supervisor takes a personal interest in those he supervises.

My supervisor is willing to listen to what I have to say.

Supervisor structuring (mean = 4.50, S.D. = 1.56) was measured on the agree-disagree scale by the mean of two items:

My supervisor makes it clear how I should do my work.

My supervisor makes sure his people have clear goals to achieve.

This index measured the supervisor's success at structuring the subordinates' work by making it clear what they should do on their jobs.

Table 1 contains the correlations among all variables.

Insert Table 1 about here.

Analyses

The sample was divided into thirds on the higher order need strength variable. The top third was designated the strong higher order need strength group, and the bottom third was designated the weaker higher order need strength group. The middle group was not used for analysis, as the higher order need strength measure probably was not sufficiently precise to permit the discrimination of small differences among subgroups.

Variances on all measures were computed for the strong and weaker higher order need strength groups, and F tests were calculated to test for significance of differences between variances between the two groups. In addition, the Wilcoxen test was calculated in order to get a measure of overall differences between the two groups. The Wilcoxen (Hays, 1973) takes into account both the size and direction of differences between pairs of scores (variances in this study). A nonparametric test, the Wilcoxen had the advantage in this study of giving an overall test of the hypothesis without having the parametric assumptions regarding the sample distrubution. One-tailed tests were used, because the direction of the differences was predicted in the hypothesis.

Table 2 contains the comparisons between strong and weaker higher order need strength groups on the variances in perceived environmental characteristics for the entire sample. For all six variables, the difference between the variances were in the hypothesized direction. For four of the six, the F was signi-

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Insert Table 2 about here

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ficant. Since all differences between pairs are in the hypothesized direction, the Wilcoxen test, as a test of the significance of the differences in the table overall, was also highly significant ($T = 0$, $p < .01$). Thus, these results were consistent with the first hypothesis. The second hypothesis, that the differences in variance would be found primarily in the measures of perception of job characteristics and reward systems, was not entirely supported by this overall analysis, as all of the differences were in the hypothesized direction; and among

those four differences which had signigicant F's, one was for supervisor support, which was not expected to show a large difference.

Discussion

Overall, employees' higher order need strength does seem to be related to the variances in their perceptions of their work environments. It is suggested that this is because people expect that higher order needs can be satisfied at work, and that therefore, those employees with strong higher order needs have more to gain by being more sensitive to variations in their work environments. Also supporting this interpretation was the fact that variances of the perceptions of all three of the characteristics of intrinsically motivating jobs were significantly different between the two need strength groups, while only one of the variances of perceptions of the other three job characteristics was significantly different between these groups.

Whether the greater variance in perceptions of work environment indicates more or less accuracy of perception is not determined in this study. It is possible that strong higher order needs lead people to be more sensitive and to notice real (although perhaps small) differences in their work situation, but an alternative explanation is that people with strong higher order needs are likely to have distorted perceptions of their environments.

Further research on the topic could be addressed to the question of whether the greater variance in perceptions of the strong higher order need strength group is related to actual variation in the objective work situation. One approach to this question would be to determine, among people with strong higher order needs, whether those reporting the extremes on some of the variables, e.g. intrinsically motivating job characteristics, are in jobs that are at the objective extremes on

such characteristics. Either an experimental study in which job characteristics are manipulated or a correlational study in which trained observers rate the job characteristics (e.g. Jenkins, Nadler, Lawler, and Cammann, 1975) would be an appropriate approach.

Another area for further research concerns the possibility that the variances in perceptions of job characteristics are related to higher order need strength simply because employees with strong higher order needs are placed in a greater variety of jobs than are employees with weaker higher order needs. Work is currently underway on this hypothesis; we are comparing strong versus weak higher order need strength groups that are in objectively similar jobs (i.e., job title, plant location, etc.).

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Table 1

Correlation Coefficients Among All Variables

(N = 888)

		1	2	3	4	5	6	7
1.	Higher order need strength							
2.	Job characteristics	.29**						
3.	Supervisor support	.06*	.24**					
4.	Supervisor structuring	.06*	.21**	.54**				
5.	Contingent pay	.22**	.19**	.16**	.14**			
6.	Contingent promotion	.21**	.32**	.22**	.24**	.54**		
7.	Coordination	.15**	.17**	-.02	.06*	.09**	.16**	

*p < .05

**p < .01

Table 2

Comparison of Variances in Perceived Environmental Characterisitcs:

Strong Versus Weaker Higher Order Need Strength Employees

Variable	Means Strong HONS Weaker HONS	Variances A Strong HONS B Weaker HONS	N's Strong HONS Weaker HONS	F (Between A & B)
Job Characteristics	5.15 4.67	0.85 0.57	314 324	1.491*
Contingent Pay	2.61 1.71	4.95 2.38	314 325	2.080*
Contingent Promotion	3.33 2.50	5.02 3.28	314 325	1.530*
Supervisor Support	5.27 5.08	2.64 1.90	312 319	1.389*
Supervisor Structuring	4.58 4.44	2.68 2.23	309 319	1.202
Coordination	5.39 4.99	1.78 1.59	314 323	1.119

*p < .01